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EXAMINER

MOLINARI, MICHAEL J

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,642

Applicant(s)

DYKE ET AL

Examiner

Michael J Molinari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: the phrase "further comprising" should be added to line 1 of the claim, before "means for". Appropriate correction is required.
2. Claim 17 is objected to because of the following informalities: The final line of the claim recites the limitation that the codes reside in a computer readable medium. However, that limitation is recited in the preamble of the claim and it is not necessary to repeat it. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 17 recites the limitation "the computer program product" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-2, 5-7, 10, 12-13, 15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Darcie et al. (U.S. Patent No. 6,493,335).

7. Referring to claim 1, Darcie et al. disclose a communication system comprising optical line termination (OLT) equipment (Switched Bridger, see Figure 1, #14) coupled to a plurality of outstations (End Users, see Figure 1, #20) through an optical communication resource (Intermediate Node, see Figure 1, #15), the optical communication resource including an optical splitter providing a point-to-multipoint concentration/distribution function between the OLT equipment and the plurality of outstations (see column 4, lines 60-61), wherein: the OLT equipment comprises collision detection logic to support media access control of the plurality of outstations to the OLT equipment via the optical splitter and over the optical communication resource, the collision detection logic responsive to packet-switched encoded data communicated thereto through the optical communication resource (see column 5, lines 1-12), the packet-switched encoded data realizing a transport mechanism through the optical communication resource (see column 3, lines 4-12); and wherein each of the plurality of outstations is adapted to pass data in a packet-switched format to and from the optical communication resource such that packet-switched encoded data is transported, in use, directly between the outstation and the OLT equipment (see column 4, lines 10-17).

8. Referring to claim 2, Darcie et al. disclose that the collision detection logic includes at least one of: means for monitoring a root-mean-square (rms) level of a signal communicated across the optical communication resource on one of an instantaneous and time-averaged basis; means for monitoring a peak-to-peak level of a signal communicated across the optical

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communication resource on one of an instantaneous and time-averaged basis; means for identifying invalid recovered data bits; and means for contrasting received signal signatures to identify irregularities indicative of a data collision (see column 5, lines 1-12).

9. Referring to claim 5, Darcie et al. disclose an Optical line termination (OLT) equipment (Switched Bridger, see Figure 1, #14) responsive, in use, to a modulated optical carrier supporting a packet-switched protocol coded into a predetermined line code format (see column 4, lines 10-17), the modulated optical carrier emanating from at least one outstation (End Users, see Figure 1, #20), the optical line termination equipment comprising: collision detection logic to support media access control of a plurality of outstations to the OLT equipment, the collision detection logic responsive to packet-switched encoded data communicated thereto (see column 5, lines 1-12).

10. Referring to claim 6, Darcie et al. disclose means for coding packet-switched protocol packets into a predetermined line code format (see column 4, lines 10-17); and means for modulating the predetermined line code onto an optical carrier (see column 11, line 64 to column 12, line 46); wherein packet-switched coded data realizes a transport mechanism through an optical communication resource connectable, in use, to the OLT equipment; and wherein the OLT equipment is adapted to pass data in a packet-switched format to and from the optical communication resource such that packet-switched encoded data is transported, in use, directly between the OLT equipment and an outstation (see column 3, lines 4-12 and column 4, lines 10-17).

11. Referring to claim 7, Darcie et al. disclose means for notifying outstations of a data collision event, said means for notifying responsive to the collision detection logic (see column 6, lines 4-33).

12. Referring to claim 10, Darcie et al. disclose an outstation (End User, see Figure 1, #20) connectable, in use, to a communication exchange (Switched Bridger, see Figure 1, #14) through an optical communication resource (Intermediate Node, see Figure 1, #15), the outstation comprising: means for receiving data packetized into a packet-switched protocol format (see column 4, lines 10-17); means for coding the packet-switched formatted data into a line code (see column 4, lines 10-17); means for modulating the line code onto an optical carrier (see column 4, lines 17-29); and means for applying a resultant modulated optical carrier to the optical communication resource, such that the packet-switched formatted data, in use, is utilized to support media access control of the outstation (see Summary of the Invention) and wherein: the packet-switched formatted data realizes a transport mechanism through the optical communication resource, and the packet-switched formatted data is passed to and from the optical communication resource such that packet-switched formatted data is transported, in use, directly between the outstation and the communication exchange (see Figure 1).

13. Referring to claim 12, Darcie et al. disclose a method of operating a base station equipment for a communication exchange, the method comprising: receiving an optical carrier modulated with a line code supporting packet-switched protocol packaged data (see column 4, lines 1-59); detecting uplink collisions (see column 5, lines 1-12); and administering media access control to a plurality of outstations connectable to the communication exchange through an optical communication resource, wherein media access control is regulated by the base station

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according to uplink collision of packet-switched encoded data received in modulated optical carriers (see column 5, lines 1-12).

14. Referring to claim 13, Darcie et al. disclose coding packet-switched packets into a line code format (see column 4, lines 9-16); and modulating the predetermined line code onto an optical carrier (see column 4, lines 17-29); wherein packet-switched encoded data realizes a transport mechanism through the optical communication resource (see column 4, lines 17-29); and wherein the base station is adapted to pass data in a packet-switched format to and from the optical communication resource such that packet-switched encoded data is transported, in use, directly between the base station and an outstation (see Figure 1).

15. Referring to claim 15, Darcie et al. disclose a method of communicating information between outstations (End Users, see Figure 1, #20) and optical line termination equipment (Switched Bridger, see Figure 1, #14) via an optical fiber (see Figure 1, #23), the method comprising: receiving data packetized in a packet-switched format, coding the packet-switched formatted data into a line code (see column 4, lines 9-16); modulating the line code onto an optical carrier (see column 4, lines 17-29); applying a resultant modulated optical carrier to the optical communication resource, wherein the packet-switched formatted data realizes a transport mechanism through the optical fiber and the packet-switched formatted data is passed to and from the optical communication resource such that packet-switched formatted data is transported, in use, directly between the outstations and the optical line termination equipment (see Figure 1); detecting, at the optical line termination equipment, uplink collisions; and administering media access control of outstations according to the detecting of uplink collision

of packet-switched encoded data received in modulated optical carriers (see column 5, lines 1-12).

16. Referring to claim 17, Darcie et al. disclose a computer-readable medium comprising computer-readable instructions for controlling exchange equipment (Switched Bridger, see Figure 1, #14) to administer media access control of a plurality of optical outstations (End Users, see Figure 1, #20) coupled to the exchange equipment through an optical fiber (see Figure 1, #23), the computer-readable instructions comprising: code that directs the exchange equipment to receive an optical carrier modulated with a line code supporting packet-switched protocol packaged data (see column 4, lines 1-37); code that directs the exchange equipment to detect uplink collisions (see column 5, lines 1-12); and code that directs the exchange equipment to administer media access control of the plurality of optical outstations based on detection of uplink collision of packet-switched protocol encoded data received in modulated optical carriers (see column 5, lines 1-12).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 3-4, 8-9, 11, 14, 16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darcie et al. (U.S. Patent No. 6,493,335).

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19. Referring to claims 3, 8, 11, 14, 16, and 18 Darcie et al. disclose that packet-switched encoded data is Ethernet data. However, it is well known in the art to carry IP packet data over Ethernet data. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to carry IP packet-switched data over the Ethernet packet-switched data of Darcie et al.

20. Referring to claim 4, Darcie et al. differ from claim 4 in that they fail to disclose that the plurality of outstations each include a signal processor arranged, in use, to code incident IP packets within a predetermined line code. However, it is well known that outstations such as those of Darcie et al. have signal processors and, as explained regarding claim 3, it is well known to code incident IP packets within a predetermined line code (Ethernet frame). Therefore, it would have been obvious to one skilled in the art at the time of the invention to include signal processors for coding incident IP packets within a predetermined line code into the system of Darcie et al.

21. Referring to claim 9, Darcie et al. disclose a method of operating an outstation (End Users, see Figure 1, #20) connectable, in use, to a communication exchange (Switched Bridger, see Figure 1, #14) through an optical communication resource (Intermediate Node, see Figure 1, #15), the method comprising: receiving packetized data (see column 3, lines 4-12 and column 4, lines 10-17); coding the packet-switched formatted data into a line code (see column 4, lines 10-17); modulating the line code onto an optical carrier (see column 4, lines 17-29); and applying a resultant modulated optical carrier to the optical communication resource, such that the packet-switched formatted data, in use, is utilized to support media access control of the outstation and wherein: the packet-switched formatted data realizes a transport mechanism through the optical

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communication resource (see column 4, lines 10-17); and the packet-switched formatted data is passed to and from the optical communication resource such that packet-switched formatted data is transported, in use, directly between the outstation and the communication exchange (see Figure 1). Darcie et al. differ from claim 1 in that they fail to disclose that the packetized data is Internet Protocol, although they do disclose the use of Ethernet. However, it is well known in the art to carry IP packet data over Ethernet data. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to carry IP packet-switched data over the Ethernet packet-switched data of Darcie et al.

22. Referring to claim 19, Darcie et al. disclose code that directs the exchange equipment to code packets into a line code format (see column 4, lines 9-16); and code that directs the exchange equipment to modulate the line code onto an optical carrier, wherein encoded data realizes a transport mechanism through the optical fiber (see column 4, lines 17-29); code that directs the exchange equipment to pass data in a packetized format to and from the optical fiber such that encoded data is transported, in use, directly between the exchange equipment and at least one outstation (see Figure 1). Darcie et al. differ from claim 1 in that they fail to disclose that the packetized data is Internet Protocol, although they do disclose the use of Ethernet. However, it is well known in the art to carry IP packet data over Ethernet data. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to carry IP packet-switched data over the Ethernet packet-switched data of Darcie et al.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Molinari whose telephone number is (703) 305-5742. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Michael Joseph Molinari



ALPUS H. HSU
PRIMARY EXAMINER